

REVIEWED

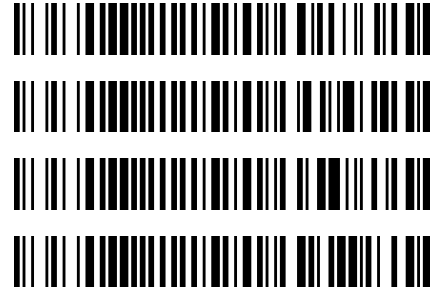
By Anne Nord at 11:30 am, Mar 26, 2021

TS

3/24/2021

Worklist: 4856

| <u>LAB CASE</u> | <u>ITEM</u> | <u>ITEM TYPE</u> | <u>DESCRIPTION</u> |
|-----------------|-------------|------------------|-----------------------------------------|
| P2021-0285 | 1 | UCK | AM 25 Urine Multi-Drug Screen by LC-QQQ |
| P2021-0380 | 1 | UCK | AM 25 Urine Multi-Drug Screen by LC-QQQ |
| P2021-0395 | 1 | UCK | AM 25 Urine Multi-Drug Screen by LC-QQQ |
| P2021-0445 | 1 | UCK | AM 25 Urine Multi-Drug Screen by LC-QQQ |



AM# 25: Multi-Drug Screen in Blood and Urine by LC-MS/MS

Extraction Date: 3/24/2021

Analyst: Tamara Salazar - HOA Amber Gerheart

Plate lot#: 201206

Plate Expiration: 6/06/2021

Mobile phase A: 10mM Amm Form

Mobile phase B: 0.1% Formic Acid in MeOH

Instant Buffer I

Ethyl Acetate

LC Methanol

Blank Blood Lot: Lampire 20L20724

Column: Phenomenex Phenyl Hexyl (4.6x50mm, 2.6um)

LCMS-QQ ID: 069901

Blank Urine Lot: POC031319

Pre-Analytic:

- 1. Check levels of mobile phases and needle wash refill as needed. Ensure waste is not full.
- 2. Ensure correct column is installed and begin mobile phase flow allow to equilibrate ~ 30 minutes.

Analytic:

- 1. Remove standards, plate, controls, and samples from cold storage. Allow to reach room temperature.
- 2. Urine Hydrolysis: In blank well, add 250µL urine, 40µL BG Turbo, and 100µL Instant Buffer I. Place on plate shaker for 5 minutes.
- 3. Using a calibrated pipette, pipette **250µL blood and urine** (if applicable) into wells of analytical (standards) plate.
Pipette ID: 42
- 4. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 5. Pipette **250µL 0.5 M ammonium hydroxide** in wells of analytical plate.
- 6. Place on shaking incubator at ambient temp., 900rpm for 15 minutes.
- 7. Transfer **200-450µL of blood+base and urine+base (if applicable)** mixture to corresponding wells of SLE+ plate.
Amount transferred: 300µL
- 8. Apply positive pressure for approx. 10-15 seconds (or until no liquid remains on top of sorbent).
(Load at 85-100 PSI- Selector to the right).
- 9. Wait 5 minutes.
- 10. Add **900uL ethyl acetate**.
- 11. Wait 5 minutes.
- 12. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 13. Add **900uL ethyl acetate**.
- 14. Wait 5 minutes.
- 15. Apply positive pressure for approx. 15 seconds. *(10-15 PSI- Selector to the left).*
- 16. Remove plate containing eluate. Place on SPE Dry and evaporate to dryness at approx. 35°C. If run contains urine, add 50µL 1% HCl in MeOH to wells and place plate cover on plate before drying.
- 17. Reconstitute in **100µL 20% LC MeOH** and heat seal plate with foil. Place in autosampler and run worklist.

Post-Analytic

- 1. Open quantitation software and create a new quantitation batch.
- 2. Make necessary changes to integration limits
- 3. Evaluate samples, S/N of primary transition >5 and S/N of secondary transition >3 or evaluation of peak symmetry and resolution. Within +/- 2% or 0.1 min RT of administrative control. Calculated concentration of 5 or greater or 2-5 for discretionary range.
- 4. Did all QCs pass for each analyte? If no, describe issue in comments (below).
- 5. Central File Packet to include: LIMS Worklist, Method Checklist, Calibration and Control Reports

COMMENTS: [Click here to enter text.](#)

TS

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| A | IS + Cal. 1 | P2021-0445-1 | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| B | IS + Cal. 1 | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| C | Negative Blood | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| D | Negative Urine | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| E | Urine External Control | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| F | P2021-0285-1 | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| G | P2021-0380-1 | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |
| H | P2021-0395-1 | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample | IS + Sample |

All wells to contain 60 μ l of residual DMSO

TS

| 11 | 12 |
|-------------|-------------|
| IS + Sample | IS + Sample |
| IS + Sample | IS + Sample |
| IS + Sample | IS + Sample |
| IS + Sample | IS + Sample |
| IS + Sample | IS + Cal 2 |
| IS + Sample | IS + Cal 2 |
| IS + Sample | IS + Cal. 1 |
| IS + Sample | IS + Cal. 1 |



Idaho State Police Forensic Services

AM #25 Blood and Urine Multi-Drug Screen by LCMS-QQQ And AM #28 Urine Multi-Drug Confirmatory Analysis by LCMS-QQQ—Panel 1

Methanol External Control Solution (Lot: 031820)

100 ul of 1mg/mL stock was added to each drug to 9700 ul of LC MeOH.

| <i>Component</i> | <i>Source</i> | <i>Source Lot Number</i> | <i>Expiration Date</i> |
|---------------------------|---------------|--------------------------|------------------------|
| Methanol (LCMS) | Fisher | 193068 | |
| O-desmethyl Tramadol | Cerilliant | FN01241702 | 04/30/2022 |
| Amphetamine | Cerilliant | FE04061701 | 06/30/2022 |
| Alprazolam | Cerilliant | FE07061604 | 07/31/2021 |
| Prepared: 03/18/20 | | | |
| Prepared By: Sarah Pickle | | | |
| Expires: 03/18/21 | | | |

Urine External Control Solution (Lot: WS052220)

200 ul of methanol external control solution was added to 9800 ul of urine.

Approximately 100ng/mL of each compound.

| <i>Component</i> | <i>Source</i> | <i>Source Lot Number</i> |
|------------------------------------|---------------|--------------------------|
| Negative Urine | Pocatello Lab | POC031319 |
| Methanol External Control Solution | | 031820 |
| Prepared: | 05/22/20 | |
| Prepared by: | Celena Shrum | |
| Expires: | 03/18/21 | |

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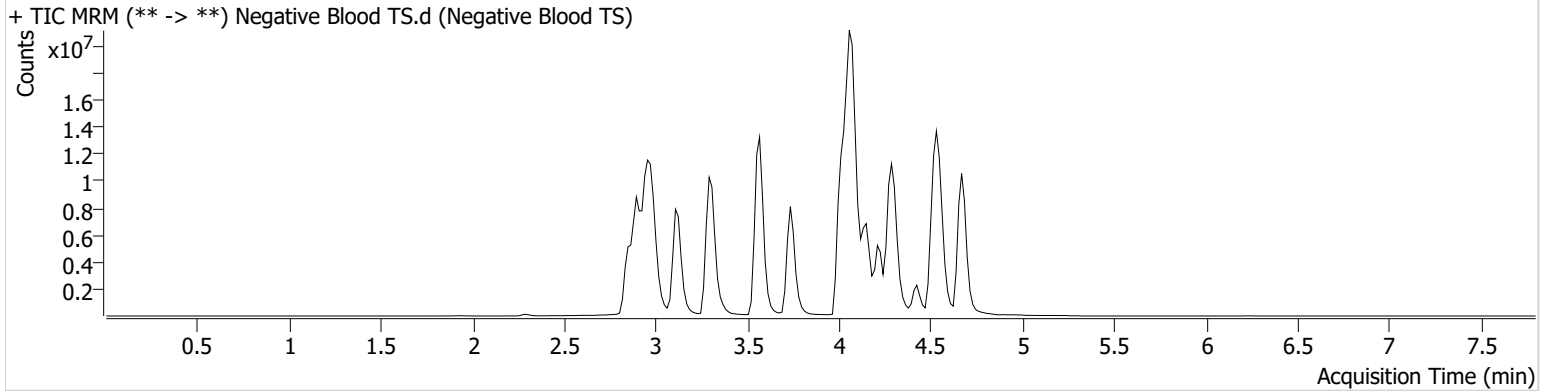


AM #25 Multi-Drug Screen Results

Batch results G:\TOX\Pocatello\Falco\2021\AM 25-26\032321 AM 25 26 CS\QuantResults\AM 25 AG.batch.bin
Calibration Last Update 3/25/2021 3:56:15 PM

| | | | |
|-------------------------|----------------------|------------------|---------------------|
| Instrument | Instrument 1 | Data File | Negative Blood TS.d |
| Type | Sample | Sample | Negative Blood TS |
| Acq. Method | AM 25 MDS.m | Operator | Tamara Salazar |
| Sample Position | P6-C1 | Comment | |
| Injection Volume | 5 | | |
| Acq. Date-Time | 3/24/2021 3:05:56 PM | | |
| Sample Info. | | | |

Sample Chromatogram



TS

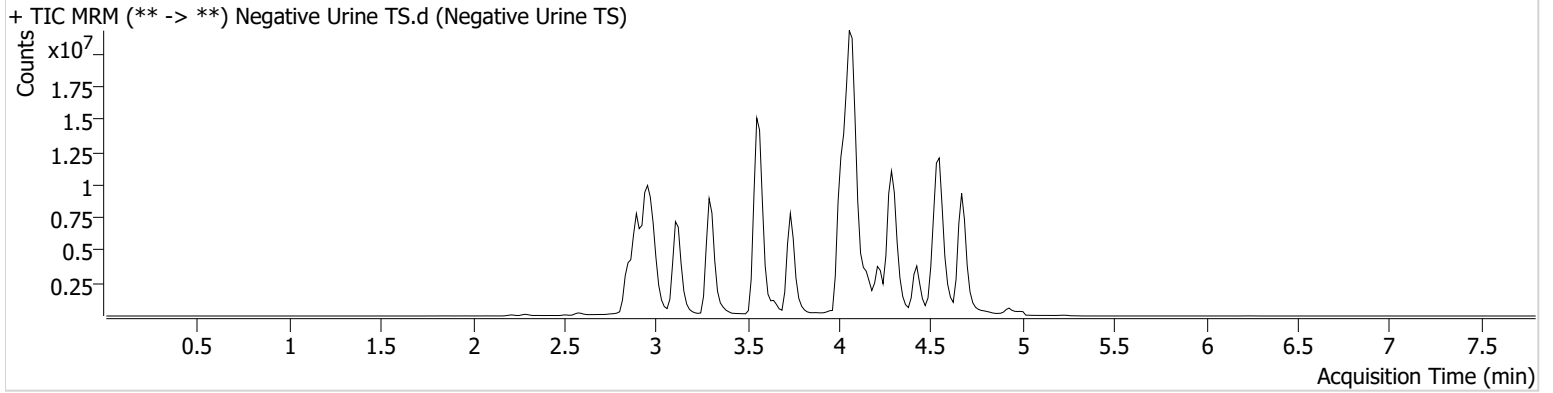


AM #25 Multi-Drug Screen Results

Batch results G:\TOX\Pocatello\Falco\2021\AM 25-26\032321 AM 25 26 CS\QuantResults\AM 25 AG.batch.bin
Calibration Last Update 3/25/2021 3:56:15 PM

| | | | |
|-------------------------|----------------------|------------------|---------------------|
| Instrument | Instrument 1 | Data File | Negative Urine TS.d |
| Type | Sample | Sample | Negative Urine TS |
| Acq. Method | AM 25 MDS.m | Operator | Tamara Salazar |
| Sample Position | P6-D1 | Comment | |
| Injection Volume | 5 | | |
| Acq. Date-Time | 3/24/2021 3:22:44 PM | | |
| Sample Info. | | | |

Sample Chromatogram



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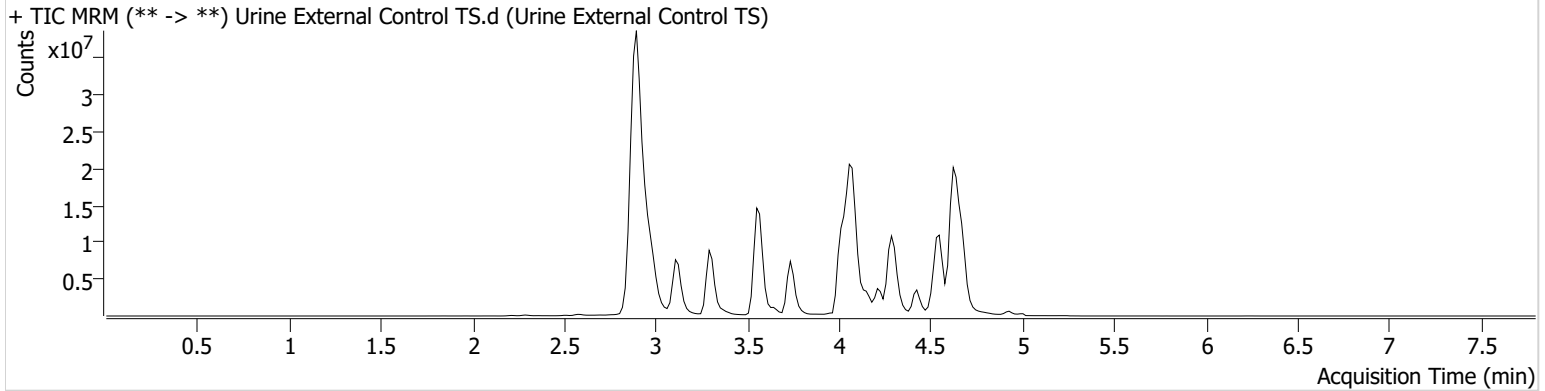


AM #25 Multi-Drug Screen Results

Batch results G:\TOX\Pocatello\Falco\2021\AM 25-26\032321 AM 25 26 CS\QuantResults\AM 25 AG.batch.bin
Calibration Last Update 3/25/2021 3:56:15 PM

| | | | |
|-------------------------|----------------------|------------------|-----------------------------|
| Instrument | Instrument 1 | Data File | Urine External Control TS.d |
| Type | Sample | Sample | Urine External Control TS |
| Acq. Method | AM 25 MDS.m | Operator | Tamara Salazar |
| Sample Position | P6-E1 | Comment | |
| Injection Volume | 5 | | |
| Acq. Date-Time | 3/24/2021 3:39:34 PM | | |
| Sample Info. | | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|----------------------|-------|----------|----------|---------|------------|-------------|
| Alprazolam | 4.626 | 33343763 | 3455.54 | ∞ | 26497650 | 84.9864 |
| Amphetamine | 2.890 | 35704446 | 1673.21 | 2080.96 | 9916537 | 97.3531 |
| O-desmethyl-tramadol | 2.915 | 50355701 | 42170.03 | 1077.57 | 46602528 | 49.0105 |

AM #25 Multi-Drug Screen Results

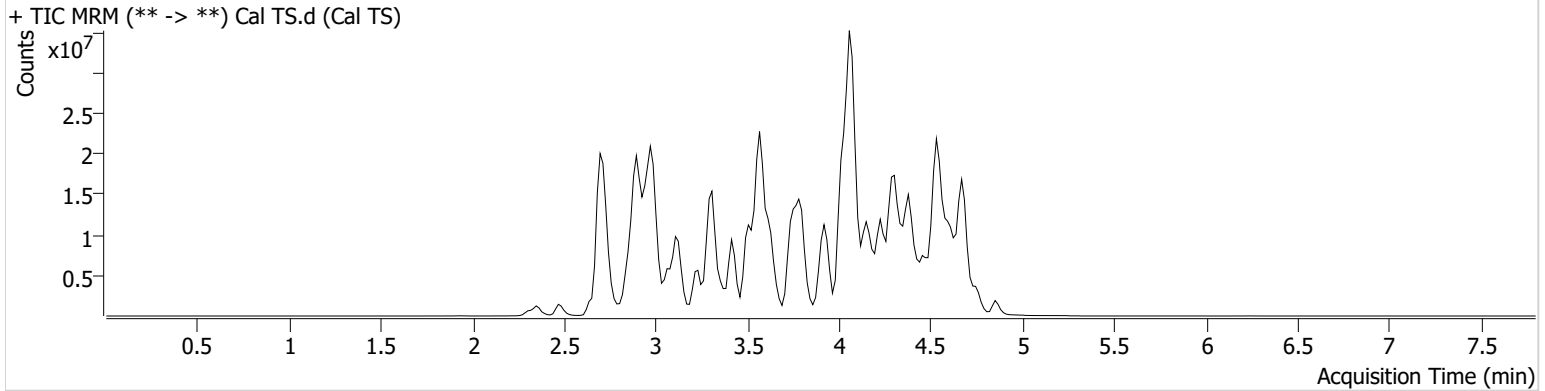
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Batch results G:\TOX\Pocatello\Falco\2021\AM 25-26\032321 AM 25 26 CS\QuantResults\AM 25 AG.batch.bin
Calibration Last Update 3/25/2021 3:56:15 PM

| | | | |
|-------------------------|----------------------|------------------|----------------|
| Instrument | Instrument 1 | Data File | Cal TS.d |
| Type | Cal | Sample | Cal TS |
| Acq. Method | AM 25 MDS.m | Operator | Tamara Salazar |
| Sample Position | P6-A1 | Comment | |
| Injection Volume | 5 | | |
| Acq. Date-Time | 3/24/2021 2:48:49 PM | | |
| Sample Info. | | | |

Sample Chromatogram



| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|------------------------|-------|----------|------------|------------|------------|-------------|
| 6-MAM | 2.907 | 93997 | 33304.40 | 40328.65 | 2901641 | 10.0000 |
| 7-aminoclonazepam | 3.569 | 2018953 | 1098.80 | 238.29 | 8345697 | 10.0000 |
| 7-aminoflunitrazepam | 3.783 | 3167121 | 494.92 | 578.61 | 8345697 | 10.0000 |
| Acetyl Fentanyl | 3.856 | 585750 | 363.55 | 361684.66 | 38362950 | 10.0000 |
| Acetyl Norfentanyl | 2.886 | 482782 | 458.69 | 476.52 | 38362950 | 10.0000 |
| a-hydroxyalprazolam | 4.531 | 559759 | 71.70 | 780.92 | 8345697 | 10.0000 |
| alpha-hydroxymidazolam | 4.606 | 3635380 | 704.35 | 242.43 | 8345697 | 10.0000 |
| Alpha-PHP | 3.819 | 6032846 | 15511.06 | 4592.00 | 38362950 | 10.0000 |
| alpha-PVP | 3.529 | 7594624 | 800.35 | 1464.96 | 16169525 | 10.0000 |
| Alprazolam | 4.626 | 4915648 | 876.07 | 335.07 | 33198863 | 10.0000 |
| Amitriptyline | 4.431 | 1410052 | 135.58 | 274.30 | 6179447 | 10.0000 |
| Amphetamine | 2.890 | 5980120 | 2685.49 | 14832.55 | 16169525 | 10.0000 |
| Benzoylcegonine | 3.385 | 401996 | 241207.19 | 61636.73 | 676179 | 10.0000 |
| Brompheniramine | 4.026 | 161777 | 145.22 | 2216.59 | 49653781 | 10.0000 |
| Buprenorphine | 4.588 | 1289167 | 64637.59 | 106405.88 | 5144845 | 10.0000 |
| Bupropion | 3.758 | 7923167 | 897.91 | 640.19 | 27056710 | 10.0000 |
| Carbamazepine | 4.250 | 15310444 | 3298.46 | 4698.36 | 1080753 | 10.0000 |
| Carisoprodol | 4.233 | 2434488 | 1201.75 | 114.60 | 14543698 | 10.0000 |
| Chlordiazepoxide | 4.750 | 3148391 | 1244.24 | 1099.45 | 33198863 | 10.0000 |
| Chlorpheniramine | 3.939 | 10997408 | 10773.52 | 706.61 | 49653781 | 10.0000 |
| Citalopram | 4.055 | 4455813 | 2421.68 | 541.75 | 49653781 | 10.0000 |
| Clomipramine | 4.624 | 1329624 | 70936.64 | 447.55 | 49653781 | 10.0000 |
| Clonazepam | 4.455 | 3107230 | 364.29 | 1150.79 | 19533909 | 10.0000 |
| Clonazolam | 4.375 | 3237007 | 1795474.62 | 806005.23 | 33198863 | 10.0000 |
| Cocaethylene | 3.765 | 7640125 | 2120.00 | 2533926.10 | 36016999 | 10.0000 |
| Cocaine | 3.567 | 9034711 | 4389413.97 | 781.84 | 36016999 | 10.0000 |
| Codeine | 2.821 | 574669 | 3943.79 | 2555.06 | 16741622 | 10.0000 |
| Cyclobenzaprine | 4.354 | 2704858 | 673.72 | 52.46 | 6179447 | 10.0000 |
| Desipramine | 4.370 | 3888679 | 678.77 | 393.93 | 6179447 | 10.0000 |
| Dextromethorphan | 4.063 | 3154723 | 561.41 | 579.16 | 16155321 | 10.0000 |
| Dextrorphan | 3.356 | 4227595 | 947.49 | 2429.28 | 16155321 | 10.0000 |
| Diazepam | 4.858 | 2501642 | 498.43 | 5134.14 | 33198863 | 10.0000 |
| Dihydrocodeine | 2.743 | 1580725 | 518.76 | 151.74 | 16741622 | 10.0000 |
| Diphenhydramine | 4.032 | 14178836 | 1512.63 | 1120.14 | 49653781 | 10.0000 |

Cal TS

AM #25 Multi-Drug Screen Results

TS



| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|----------------------|-------|----------|------------|-------------|------------|-------------|
| Doxepin | 4.153 | 2649501 | 627.66 | 76.41 | 31818471 | 10.0000 |
| Doxylamine | 3.632 | 13372913 | 8490814.58 | 33518112.10 | 16155321 | 10.0000 |
| EDDP | 4.061 | 2398322 | 422.31 | 5394.43 | 5454174 | 10.0000 |
| Estazolam | 4.551 | 9602589 | 1151.50 | 634.90 | 33198863 | 10.0000 |
| Etizolam | 4.636 | 597162 | 924.37 | 1956239.65 | 33198863 | 10.0000 |
| Fentanyl | 4.085 | 354532 | 128.66 | 210808.79 | 22864883 | 10.0000 |
| Flualprazolam | 4.484 | 1644711 | 1435542.72 | 1852.51 | 33198863 | 10.0000 |
| Flunitrazepam | 4.579 | 5392297 | 3640.34 | 17004.49 | 33198863 | 10.0000 |
| Fluoxetine | 4.335 | 1298959 | 516.54 | 45.58 | 1669163 | 10.0000 |
| Flurazepam | 4.175 | 6664888 | 3430099.94 | 360.03 | 33198863 | 10.0000 |
| Hydrocodone | 3.003 | 2630313 | 6841.69 | 2063.13 | 16741622 | 10.0000 |
| Hydromorphone | 2.473 | 2430016 | 4663.69 | 426.85 | 377870 | 10.0000 |
| Imipramine | 4.383 | 6109061 | 1314.57 | 1349.93 | 6179447 | 10.0000 |
| Ketamine | 3.513 | 6081241 | 915.92 | 252.83 | 24958476 | 10.0000 |
| Lamotrigine | 3.587 | 467189 | 637.60 | 39377.05 | 49653781 | 10.0000 |
| Levamisole | 2.963 | 4642419 | 2941.03 | 604.75 | 36016999 | 10.0000 |
| Levetiracetam | 2.659 | 2011333 | 247.25 | 884.46 | 49653781 | 10.0000 |
| Lorazepam | 4.455 | 1132598 | 852.08 | 247.67 | 33198863 | 10.0000 |
| Maprotiline | 4.431 | 1008366 | 106.38 | 171.61 | 6179447 | 10.0000 |
| MDA | 2.994 | 4783269 | 840.04 | 490.77 | 34215977 | 10.0000 |
| MDEA | 3.223 | 7277204 | 595.03 | 482.24 | 34215977 | 10.0000 |
| MDMA | 3.070 | 9476276 | 986.54 | 2393.05 | 34215977 | 10.0000 |
| Meperidine | 3.588 | 3812416 | ∞ | 688.68 | 16155321 | 10.0000 |
| Meprobamate | 3.668 | 1334079 | 584.58 | 162.01 | 14543698 | 10.0000 |
| Methadone | 4.380 | 10358825 | 619.16 | 1522.94 | 5454174 | 10.0000 |
| Methamphetamine | 2.981 | 10821149 | 1218.82 | 800.81 | 34215977 | 10.0000 |
| Methocarbamol | 3.573 | 770865 | 290.89 | 1175.37 | 5454174 | 10.0000 |
| Methylphenidate | 3.497 | 16503569 | 17781.79 | 1018.01 | 26230004 | 10.0000 |
| Metoprolol | 3.418 | 1038726 | 638.22 | ∞ | 16155321 | 10.0000 |
| Midazolam | 4.760 | 1227301 | 1713.81 | 870821.20 | 33198863 | 10.0000 |
| Mirtazapine | 3.924 | 5059930 | 2978.08 | 227169.73 | 16155321 | 10.0000 |
| Mitragynine | 4.190 | 619352 | 285955.16 | 467245.66 | 16155321 | 10.0000 |
| Morphine | 2.307 | 452041 | ∞ | 381.70 | 377870 | 10.0000 |
| Norbuprenorphine | 3.822 | 131661 | 88246.35 | 131126.81 | 5144845 | 10.0000 |
| Nordiazepam | 4.707 | 2575808 | 1421.87 | 888.88 | 33198863 | 10.0000 |
| Norfentanyl | 3.313 | 11118549 | 407.56 | 785.48 | 38362950 | 10.0000 |
| Norhydrocodone | 2.929 | 69227 | 2033.57 | 18563.91 | 377870 | 10.0000 |
| Norketamine | 3.606 | 853676 | 199.24 | 3615.82 | 24958476 | 10.0000 |
| Normeperidine | 3.590 | 3567385 | 5278.38 | 435.49 | 49653781 | 10.0000 |
| Noroxycodone | 2.881 | 1827418 | 265.15 | 240.39 | 24958476 | 10.0000 |
| Nortriptyline | 4.417 | 967304 | 529.31 | 290.46 | 6179447 | 10.0000 |
| O-desmethyl-tramadol | 2.899 | 10947183 | 24665.12 | 80.15 | 49653781 | 10.0000 |
| Olanzapine | 3.796 | 2544575 | 200.32 | 1267.97 | 1080753 | 10.0000 |
| Oxazepam | 4.521 | 4498066 | 619.79 | 379.01 | 19533909 | 10.0000 |
| Oxycodone | 2.909 | 5572009 | 1432.26 | 938.23 | 24958476 | 10.0000 |
| Oxymorphone | 2.347 | 2358915 | 2130.86 | 25349.26 | 377870 | 10.0000 |
| Paroxetine | 4.331 | 222808 | 114.67 | 820.69 | 1669163 | 10.0000 |
| Phenazepam | 4.651 | 4171043 | 2702.20 | 1174.37 | 33198863 | 10.0000 |
| Phencyclidine | 3.911 | 8699489 | 54619.84 | 189.19 | 16155321 | 10.0000 |
| Phentermine | 3.149 | 2242869 | 134.31 | 27.78 | 26230004 | 10.0000 |
| Phenytoin | 4.141 | 1789968 | 367625.11 | 441.35 | 1080753 | 10.0000 |
| Promethazine | 4.337 | 7366878 | 946.85 | 272.86 | 49653781 | 10.0000 |
| Pseudoephedrine | 2.705 | 55662144 | 776.27 | 2374.11 | 34215977 | 10.0000 |
| Quetiapine | 4.467 | 6450143 | 4972259.07 | 3794584.16 | 42193284 | 10.0000 |
| Sertraline | 4.565 | 294771 | 17651.17 | 206.15 | 1669163 | 10.0000 |
| Sufentanil | 4.436 | 287873 | 395760.79 | 313.90 | 38362950 | 10.0000 |
| Tapentadol | 3.422 | 8307780 | 834.73 | 2420.87 | 24958476 | 10.0000 |
| Temazepam | 4.689 | 8612452 | 4272.59 | 305.85 | 33198863 | 10.0000 |
| Tramadol | 3.418 | 13515259 | 1158.05 | 333.88 | 49653781 | 10.0000 |
| Trazodone | 4.590 | 7968974 | 3807220.34 | 8101332.76 | 31818471 | 10.0000 |

TS



AM #25 Multi-Drug Screen Results

| Name | RT | Resp. | S/N | S/N | ISTD Resp. | Calc. Conc. |
|-------------|-------|----------|------------|------------|------------|-------------|
| Venlafaxine | 3.784 | 9672734 | 6032.64 | 257.22 | 1669163 | 10.0000 |
| Zaleplon | 4.351 | 5356518 | 1503.07 | 806.63 | 42193284 | 10.0000 |
| Zolpidem | 4.304 | 14439545 | 2436.25 | 10754.36 | 42193284 | 10.0000 |
| Zopiclone | 4.160 | 3591017 | 1477053.12 | 2110161.55 | 19058259 | 10.0000 |